when the discrete images overlap one another, these methods Further identify the extent of the overlap.

Having thus described the preferred embodiments of the present invention, those of skill in the art will readily appreciate that the teachings found herein may be applied to yet other embodiments within the scope of the claims hereto attached.

What is claimed is:

1. In a system for controlling a tiled display system that receives an input video signal, the tiled display system having two or more displays, each manifesting one of a number of discrete images separately onto a viewing surface or screen to form a composite image, at least one of the discrete images overlapping an adjacent discrete image to form at least one overlapping region, the improvement comprising:

camera means for providing a capture image of at least a portion of the composite image including at least a portion of at least one overlapping region;

determining means for determining if the capture image has one or more non-desirable characteristics; and

identifying means for identifying a transformation function that can be used to process the input video signal and provide processed input video signals to selected displays to reduce the one or more non-desirable characteristics.

2. A tiled display system according to claim **1**, wherein the two or more displays are projection type displays.

3. A tiled display system according to claim **1**, wherein the two or more displays are front projection displays.

4. A tiled display system according to claim **1**, wherein the two or more displays are rear projection displays.

5. A tiled display system according to claim **1**, wherein the one or more non-desirable characteristics include spatial non-uniformity.

6. A tiled display system according to claim **1**, wherein the one or more non-desirable characteristics includes color non-uniformity.

7. A tiled display system according to claim **1**, wherein the one or more non-desirable characteristics includes luminance non-uniformity.

8. A tiled display system according to claim **1**, wherein the camera means is a colorimeter.

9. A tiled display system according to claim **8**, wherein the calorimeter comprises one or more video cameras.

10. A tiled display system according to claim **1**, wherein the tiled display system has a viewing side with said camera means located on the viewing side.

11. In a system for controlling a tiled display system that receives an input video signal, the tiled display system having two or more displays, each manifesting one of a number of discrete images separately onto a viewing surface or screen to form a composite image, the improvement comprising:

camera means for providing a capture image of at least a portion of the composite image, the tiled display system having a viewing side with said camera means located on the opposite of the viewing side;

determining means for determining if the capture image has one or more non-desirable characteristics; and

identifying means for identifying a transformation function that can be used to process the input video signal and provide processed input video signals to selected displays to reduce the one or more non-desirable characteristics.

12. A tiled display system according to claim **11**, wherein said camera means periodically captures a new capture image during normal functional operation of the tiled display system.

13. A system according to claim **12**, wherein said determining means periodically determines if the new capture image his one or more non-desirable characteristics, and said identifying means periodically identifies a new transformation function that can be used to process the input video signal and provide processed input video signals to selected displays to reduce the one or more non-desirable characteristics.

14. A system according to claim **11**, wherein said camera means captures the capture image during a calibration period.

15. A tiled display system according to claim **11**, wherein the camera means captures a portion of the composite image that substantially corresponds to one of the number of discrete images.

16. A system according to claim **11**, wherein the camera means sequentially captures a portion of the composite image, wherein each sequentially captured portion substantially corresponds to one of the number of discrete images.

17. A method for controlling a display system that has two or more displays, each display manifesting one of a number of discrete images separately onto a viewing surface or screen to form a composite image, the method comprising the steps of:

capturing a capture image of at least a portion of the composite image, the capture image being captured from a side of the viewing surface or screen that is opposite to a viewing side;

determining if the capture image has one or more non-desirable characteristics; and

identifying a transformation function that can be used to process an input video signal and provide a processed input video signal to selected displays to reduce the one or more non-desirable characteristics.

18. A method according to claim **17**, wherein said capturing, determining and identifying steps are repeated periodically during normal functional operation of the projection display.

19. A method according to claim **17**, wherein said determining step compares the capture image with a predetermined data set to determine if the capture image has one or more non-desirable characteristics.

20. A method according to claim **17**, wherein said transformation function is determined during a calibration procedure.

21. A method according to claim **20**, wherein said calibration procedure includes the steps of:

sequentially inputting one or more input signals that correspond to a flat field image of varying intensities;

capturing a capture image of selected flat images;

identifying a luminance dome in the capture images; and

determining a transformation function that will at least partially remove the luminance domes from the composite image.

22. A method according to claim **21**, wherein the transformation function is represented by a color look up table of captured color domes, a nearest neighbor detection and identification block and an interpolation block among the nearest neighbors to determine the input level needed at the display to output the desired linear output level.

23. A method according to claim **22**, wherein the transformation function is represented, at least in part, by a number of coefficients.

24. A method according to claim **22**, wherein the transformation function is a bilinear transformation function.

25. A method for controlling a display system that has two or more displays, each display manifesting one of a number